

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JI WOONG KIM

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Appeal 2007-1533  
Application 09/740,846  
Technology Center 2100

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Decided: November 1, 2007

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Before JAMES D. THOMAS, ANITA PELLMAN GROSS,  
and JEAN R. HOMERE, *Administrative Patent Judges*.

GROSS, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Kim (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 8 through 10, 12 through 22, and 24 through 38, which are all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

Appellant's invention relates to a microwave oven with a built-in Internet search engine for downloading recipes and automatically cooking

the food. Claim 8 is illustrative of the claimed invention, and it reads as follows:

8. A microwave oven, comprising:  
a microcomputer; and  
a converter which automatically converts one of a plurality of displayed results of an Internet search containing cooking information into a signal recognizable by the microcomputer in response to a first user signal, wherein the first user signal selects said one of said plurality of displayed results of the Internet search and wherein the converted signal controls the microcomputer to automatically generates [sic] a control signal to set the oven to cook food based on the cooking information in response to a second user signal.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Fowler	US 5,653,906	Aug. 05, 1997
Perholtz	US 5,732,212	Mar. 24, 1998
Emmott	EP 0965795 A2	Dec. 22, 1999

Scott Thurm and Mark Tatge, *Whirlpool to Launch Internet-Ready Refrigerator*, Wall Street Journal (2000).

Claims 8 through 10<sup>1</sup>, 12 through 16, 22, 24 through 27, and 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Fowler in view of Thurm.

Claims 17 through 21, 28, and 30 through 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Fowler in view of Thurm and Perholtz.

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<sup>1</sup> We note that the Examiner includes claim 11 in the statement of the rejection at page 4 of the Answer. However, claim 11 was canceled in an Amendment filed August 26, 2005, and, therefore, is not before us.

Claims 33 through 38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Emmott in view of Thurm.

Claim 37 stands rejected under 35 U.S.C. § 103 as being unpatentable over Emmott in view of Thurm and Fowler.

We refer to the Examiner's Answer (mailed October 18, 2006) and to Appellant's Brief (filed July 25, 2006) and Reply Brief (filed December 12, 2006) for the respective arguments.

### SUMMARY OF DECISION

As a consequence of our review, we will affirm the obviousness rejections of claims 8 through 10, 12 through 22, and 24 through 38.

### OPINION

The Examiner asserts (Answer 4-8) that Fowler discloses everything in claims 8 through 16, 22, 24 through 27, and 29 except an Internet search for cooking information. The Examiner asserts (Answer 5) that Thurm provides the missing disclosure. More specifically, the Examiner asserts that Fowler discloses a microwave oven with a microcomputer, obtaining cooking information over a network, converting the information into a signal understood by the microcomputer, and the microcomputer generating a control signal to cook food based on the converted cooking information. Further, Thurm discloses finding cooking information over the Internet and automatically cooking food as a result of the search. According to the Examiner (Answer 5) it would have been obvious to combine the teachings of Thurm and Fowler to provide "a simple, efficient, user-friendly means for accessing appropriate cooking information over the Internet by the touch of

a button, and then having a microwave automatically cook food by selecting one of the displayed results."

Appellant contends (Br. 14-16 and 18-19) that Fowler fails to teach operating the microwave based on an Internet search and Thurm downloads a recipe to a refrigerator, and thus neither reference discloses a converter for converting the downloaded information into a signal recognizable by the microwave's microcomputer nor automatically generating a control signal for the microwave based on the converted signal. Further, Appellant contends (Br. 16-18 and 20-21) that neither Fowler nor Thurm teaches receiving a converted signal "based on a data transmission available signal," and in particular on a data transmission available signal having different signal levels.

The main issue, therefore, is whether the combination of Fowler and Thurm would have suggested a converter for converting downloaded information into a signal recognizable by the microwave's microcomputer and automatically generating a control signal for the microwave based on the converted signal. Additionally, a second issue regarding claims 14 through 16, 26, 27, and 29 is whether the combination of Fowler and Thurm would have suggested a converted signal based on a data transmission available signal and specifically on such a signal having different signal levels.

Fowler discloses (abstract) a control system for a microwave oven. Specifically, Fowler discloses (col. 9, l. 59-col. 10, l.1) a LONworks system, which is similar to a modem or a local operating network, and which acts as an expanded memory for a display control module. The display control module sends to the LONworks adapter module a request for information about a particular menu item, the item is looked up in the memory, and the

information is transmitted back to the display control module. (See col. 10, ll. 26-31.) Fowler discloses (col. 10, ll. 31-33, and col. 27, ll. 13-15) that the information received by the display module is converted into data that is transmitted to the power board of the microwave. Thus, Fowler discloses a converter for converting recipe information received from the LONworks system into a signal recognizable by the microwave's power board.

Although Fowler discloses requesting recipe information over a network, Fowler does not disclose that the information is obtained by searching the Internet. However, Thurm (p. 1) discloses downloading a recipe from the Internet through a touch screen on a refrigerator and using the information to automatically program an oven to cook the recipe. Thurm also mentions a Web-savvy oven. Thus, taking the teachings of Fowler and Thurm together, it would have been obvious to the skilled artisan to substitute the Internet for LONworks to search for a recipe. The Supreme Court has held that in analyzing the obviousness of combining elements, a court need not find specific teachings, but rather may consider "the background knowledge possessed by a person having ordinary skill in the art" and "the inferences and creative steps that a person of ordinary skill in the art would employ." *See KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007). To be nonobvious, an improvement must be "more than the predictable use of prior art elements according to their established functions." *Id.* at 1740. Thus, we find that the combination of Fowler and Thurm would have suggested a converter for converting downloaded information into a signal recognizable by the microwave's microcomputer and automatically generating a control signal for the microwave based on the converted signal, and we will sustain the obviousness rejection of claim 8

and of claims 9, 10, and 12, which were not separately argued. Further, we will sustain the obviousness rejection of claims 13, 22, 24, and 25 because Appellant's argument is substantially the same as for claim 8, which we find unpersuasive.

As to whether the combination of Fowler and Thurm would have suggested a converted signal based on a data transmission available signal and specifically on such a signal having different signal levels, Fowler discloses (col. 27, ll. 31-43) that the microprocessor of the microwave's power board sends a signal to the display module that transmission is complete and the display module transmits the next byte of information. Thus, Fowler discloses that the microcomputer receives the converted signal based on a signal that the microcomputer is ready to receive more data. Accordingly, we will sustain the obviousness rejection of claim 14.

For claims 15, 16, 26, 27, and 29, Appellant (Br. 17-21) further contends that Fowler and Thurm fail to teach or suggest a data transmission signal that indicates a state of a converter and that has different signal levels corresponding to the sending and receiving of data. However, when there is two-way communication, such as between the converter and the microcomputer of the microwave, the signal must assume two different states to identify which direction the data is flowing. Thus, it would have been obvious for a data transmission signal to indicate the state of the converter at one level and the state of the microcomputer at another level to indicate the direction of the flow of data. Accordingly, we will sustain the obviousness rejection of claims 15, 16, 26, 27, and 29 over Fowler and Thurm.

The Examiner (Answer 8) adds Perholtz to the combination of Fowler and Thurm to reject claims 17 through 21, 28, and 30 through 32. Appellant contends (Br. 21-22) that Perholtz fails to teach the specific types of signals recited in claims 17 through 21 used to control a microwave oven. Perholtz (col. 38, l. 66-col. 39, l. 8) discloses asserting an interrupt signal to communicate converted information to a Host microprocessor. Claim 17 recites inputting a global interrupt signal when the converter is in a state for sending data to the microcomputer. Thus, in claim 17, Appellant is applying a known element according to its established function for predictable results. *See KSR*. Therefore, it would have been obvious to use a global interrupt signal in the microwave of Fowler as modified by Thurm, and we will sustain the obviousness rejection of claim 17. Further, Appellant's argument for each of claims 18 through 21, 28, and 30 through 32 merely points out what the claim recites and concludes that the combination fails to teach or suggest the quoted limitation, which does not constitute an argument according to our rules (*See* 37 C.F.R. § 41.37(c)(vii)). Therefore, we will sustain the rejection of claims 18 through 21, 28, and 30 through 32.

For claims 33 through 38, the Examiner asserts (Answer 11-13) that Emmott discloses everything except automatically outputting a control signal to cook food depending on the information selected by the user. The Examiner asserts (Answer 12) that Thurm provides the missing disclosure. More specifically, the Examiner asserts that Emmott discloses a microwave oven with a search engine for obtaining cooking information over the Internet and a display unit for displaying the results. Further, Thurm discloses finding cooking information over the Internet and automatically cooking food as a result of the search. According to the Examiner (Answer

12) it would have been obvious to combine the teachings of Thurm and Emmott to provide "a simple, efficient, user-friendly means for performing cooking operations by downloading cooking information, displaying the cooking information, and using the downloaded information selected by a user from the display to cook food automatically."

Appellant contends (Br. 9-13 and Reply Br. 2-6) that Thurm downloads a recipe to a refrigerator, and that neither Emmott nor Thurm discloses a converter for converting the downloaded information into a signal recognizable by the microwave's microcomputer nor automatically generating a control signal for the microwave based on the converted signal. The issue, therefore, is whether the combined teachings of Emmott and Thurm would have suggested to the skilled artisan a converter to convert downloaded recipes into a signal recognizable by the microwave's microcomputer to automatically control the microwave.

Emmott teaches (paragraphs [0012], [0016], [0017], and [0028]) downloading from the Internet to a display screen on a microwave oven information related to the cooking of an item, such as recipes. Emmott discloses (paragraph [0023]) that the Internet access is achieved using a modem. A liquid crystal display "can advantageously provide a user interface not only for the general cooking functions of the oven 10 but also for the control and management of the Internet access achieved by means of the oven 10." (See Emmott, paragraphs [0025-26].) Emmott discloses (paragraph [0027]) that the oven includes a standard web browser. Emmott does not explicitly disclose using the downloaded information to control the microwave.



Thurm teaches (p. 1) downloading a recipe from the Internet through a touch screen on a refrigerator and using the information to automatically program an oven to cook the recipe. Thurm also mentions a Web-savvy oven. Thus, Thurm suggests using information downloaded from the Internet to automatically program an oven to cook food. Although Thurm does not give the details of how the information would be used to program the oven, it would have been obvious to the skilled artisan that the downloaded information would first have to be converted into a signal recognizable by the microwave oven's internal computer. The level of the skilled artisan should not be underestimated. *See In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). Further, as stated *supra*, in analyzing the obviousness of combining elements, a court need not find specific teachings, but rather may consider "the background knowledge possessed by a person having ordinary skill in the art" and "the inferences and creative steps that a person of ordinary skill in the art would employ." *See KSR Int'l*, 127 S. Ct. at 1740-41. Therefore, the combined teachings of Emmott and Thurm would have suggested a converter for converting the downloaded information into a signal recognizable by the microwave's microcomputer and using the converted signal to automatically program the microwave to cook food. Accordingly, we will sustain the obviousness rejection of claims 33 through 36 and 38.

Appellant (Br. 13) argues claim 37 separately. Appellant contends that the Examiner failed to explain how Emmott and Thurm disclose that "the microcomputer recognizes a data transmission zone of the signal converting unit if a high signal generated by the signal converting unit is applied to the microcomputer, while the microcomputer recognizes a data

transmission zone of the microcomputer if a low signal is applied to the microcomputer," as recited in claim 37. We note that the Examiner (Answer 11) includes claim 37 in the statement of the rejection over Emmott and Thurm and also separately rejects claim 37 over Emmott, Thurm, and Fowler (Answer 13). In other words, the issue for claim 37 is whether the combination of Emmott and Thurm both with and without Fowler suggests or discloses two levels for the signal generated by the signal converting unit.

As stated *supra*, when there is two-way communication, such as between the converter and the microcomputer of the microwave in the combination of Emmott and Thurm, the signal must assume two different states to identify which direction the data is flowing. Thus, it would have been obvious for a data transmission signal to indicate the state of the converter at one level and the state of the microcomputer at another level to indicate the direction of the flow of data. Accordingly, we will sustain the obviousness rejection of claim 37 over Emmott and Thurm and also over Emmott, Thurm, and Fowler, with Fowler being merely cumulative.

#### ORDER

The decision of the Examiner rejecting claims 8 through 10, 12 through 22, and 24 through 38 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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